

CLAIMS

WHAT IS CLAIMED IS:

- 1 1. An article having a decorative coating provided thereon, the
2 article comprising:
3 a substrate having a surface; and
4 a material comprising scandium provided over at least a
5 portion of the surface to thereby form a decorative coating which exhibits
6 a desired color.
- 1 2. The article of claim 1, wherein the material comprising
2 scandium further comprises nitrogen.
- 1 3. The article of claim 1, wherein the material comprising
2 scandium further comprises at least one of carbon and oxygen.
- 1 4. The article of claim 1, wherein the material comprising
2 scandium comprises at least 10 atomic percent scandium.
- 1 5. The article of claim 1, wherein the material comprising
2 scandium further includes at least one metal selected from the group
3 consisting of zirconium, titanium, yttrium, niobium, hafnium,
4 molybdenum, chromium, and aluminum.
- 1 6. The article of claim 5, wherein the material comprising
2 scandium includes nitrogen.
- 1 7. The article of claim 5, wherein the material comprising
2 scandium includes at least one of carbon and oxygen.

1 8. The article of claim 1, wherein the material comprising
2 scandium includes at least one metal selected from the group consisting
3 of lanthanum, neodymium, praseodymium, samarium, dysprosium,
4 erbium, ytterbium, and cerium.

1 9. The article of claim 8, wherein the material comprising
2 scandium includes nitrogen.

1 10. The article of claim 8, wherein the material comprising
2 scandium includes at least one of carbon and oxygen.

1 11. The article of claim 1, wherein the material comprising
2 scandium is configured to provide at least one of abrasion resistance,
3 scratch resistance, tarnish resistance, and corrosion resistance for the
4 substrate.

1 12. The article of claim 1, wherein the material comprising
2 scandium has a thickness effective to provide the desired color.

1 13. The article of claim 12, wherein the thickness is greater than
2 approximately 50 nm.

1 14. The article of claim 13, wherein the thickness is greater than
2 approximately 100 nm.

1 15. The article of claim 1, further comprising a strike layer
2 provided intermediate the substrate and the material comprising
3 scandium.

1 16. The article of claim 1, wherein the strike layer comprises
2 scandium.

1 17. An article having a decorative coating comprising:

2 a substrate having a surface; and
3 a compound provided over at least a portion of the surface,
4 the compound comprising scandium.

1 18. The article of claim 17, wherein the compound comprises
2 scandium nitride.

1 19. The article of claim 17, wherein the compound further
2 comprises at least one of carbon and oxygen.

1 20. The article of claim 17, wherein the compound includes at
2 least one metal selected from the group consisting of zirconium, titanium,
3 yttrium, niobium, hafnium, molybdenum, chromium, aluminum,
4 lanthanum, neodymium, praseodymium, samarium, dysprosium, erbium,
5 ytterbium, and cerium.

1 21. The article of claim 20, wherein the compound includes
2 nitrogen.

1 22. The article of claim 17, wherein the compound includes at
2 least one of carbon and oxygen.

1 23. The article of claim 17, wherein the compound is configured
2 to provide at least one of abrasion resistance, scratch resistance, tarnish
3 resistance, and corrosion resistance for the substrate.

1 24. The article of claim 17, wherein the compound has a
2 thickness greater than approximately 50 nm.

1 25. The article of claim 24, wherein the compound has a
2 thickness greater than approximately 100 nm.

1 26. An article of manufacture comprising:

2 a substrate having a surface; and
3 a compound comprising scandium and at least one additional
4 element deposited on the surface, the compound configured to provide a
5 decorative color coating for the article;
6 wherein the at least one additional element is selected from
7 the group consisting of nitrogen, oxygen, carbon, and a metal;
8 wherein the color provided by the compound may be
9 adjusted by changing the amount of the at least one additional element in
10 the compound.

1 27. The article of claim 26, wherein compound includes at least
2 two additional elements selected from the group consisting of nitrogen,
3 oxygen, carbon, and a metal.

1 28. The article of claim 27, wherein the color provided by the
2 compound may be adjusted by changing the relative amounts of the at
3 least two additional elements.

1 29. The article of claim 26, wherein the compound comprises
2 scandium and nitrogen.

1 30. The article of claim 29, wherein the compound further
2 comprises at least one of oxygen, carbon, and a metal.

1 31. The article of claim 26, wherein the compound comprises a
2 metal selected from the group consisting of zirconium, titanium, yttrium,
3 niobium, hafnium, molybdenum, chromium, and aluminum.

1 32. The article of claim 31, wherein the compound further
2 comprises nitrogen.

1 33. The article of claim 26, wherein the compound comprises a
2 metal selected from the group consisting of lanthanum, neodymium,
3 praseodymium, samarium, dysprosium, erbium, ytterbium, and cerium.

1 34. The article of claim 33, wherein the compound further
2 comprises nitrogen.

1 35. The article of claim 26, further comprising a strike layer
2 provided intermediate the compound and the substrate, the strike layer
3 comprising scandium.

1 36. The article of claim 26, wherein the compound is deposited
2 at a thickness greater than 50 nm.